OK
4/4/17

CERTIFICATION

SDG No:	1701420R1-1	Laboratory:	Eurofins, Folson, CA
Site:	BMSMC	Matrix:	Air

SUMMARY: Air samples (Table 1) were collected on the BMSMC facility. The BMSMC facility is located in Humacao, PR. Samples were taken January 22 and 24, 2017 and were analyzed in Eurofins Laboratory of Folson, California that reported the data under SDG No.: 1701420R1-1. The sample results were assessed according to USEPA the documents described in the following order of precedence: QC criteria from "Compendium Method TO-17. Determination of Volatile Organic Compounds (VOCs) In Ambient Air Using Active Sampling Onto Sorbent Tubes (modified), January, 1999"; In addition the following guideline is employed for set up of the GC/MS analytical system including column selection, MS tune requirements, calibration protocols, etc., as per TO-17 method requirements: USEPA Hazardous Waste Support Branch. Validating Air Samples. Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, (SOP # HW-31. Revision #6. June, 2014). The analyses performed are shown in Table 1. Individual data review worksheets are enclosed for each target analyte group. The data sample summary form shows analytes results that were qualified.

In summary, the results are valid and can be used for decision making purposes.

Table 1. Samples analyzed and analysis performed

SAMPLE ID	SAMPLE DESCRIPTION	MATRIX	ANALYSIS PERFORMED
1701420R1-01A	B18-1IA-012117	Air	Naphthalene
1701420R1-02A	B18-1IAD-012117	Air	Naphthalene
1701420R1-03A	B181IA-2-012117	Air	Naphthalene
1701420R1-04A	B181IA-3-012117	Air	Naphthalene
1701420R1-05A	B181IA-4-012117	Air	Naphthalene
1701420R1-06A	B181IA-5-012117	Air	Naphthalene
1701420R1-07A	B301IA-1-012117	Air	Naphthalene
1701420R1-08A	B301IA-2-012117	Air	Naphthalene
1701420R1-09A	B301IA-3-012117	Air	Naphthalene
1701420R1-10A	B301IA-4-012117	Air	Naphthalene
1701420R1-11A	B301IA-4D-012117	Air	Naphthalene
1701420R1-12A	B301IA-5-012117	Air	Naphthalene
1701420R1-13A	B1830AA-012117	Air	Naphthalene
1701420R1-14A	B1830FB-012217	Air	Naphthalene
1701420R1-15A	B8IA-2-012317	Air	Naphthalene
1701420R1-16A	B8IA-2D-012317	Air	Naphthalene
1701420R1-17A	B8AA-012317	Air	Naphthalene
1701420R1-19A	B8SS-2D-012417	Air	Naphthalene

Reviewer Name: Rafael Infante
Chemist License 1888

Signature:

Date: March 27, 2017

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Client Sample ID: B18-1IA-012117

Lab ID#: 1701420R1-01A

EPA METHOD TO-17

File Name:	**18013112R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:07:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 03:58 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.060	3.4	0.20

Air Sample Volume(L): 16.8
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	121	50-150

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Client Sample ID: B18-11AD-012117

Lab ID#: 1701420R1-02A

EPA METHOD TO-17

File Name:	**18013113R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:09:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 04:39 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.058	3.1	0.18

Air Sample Volume(L): 17.3
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	107	50-150

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Client Sample ID: B18IA-2-012117

Lab ID#: 1701420R1-03A

EPA METHOD TO-17

File Name:	**18013114R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:00:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 05:20 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.065	5.0	0.32

Air Sample Volume(L): 15.4
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: B18IA-3-012117
Lab ID#: 1701420R1-04A
EPA METHOD TO-17

File Name:	**18013115R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:10:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 06:00 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.059	1.6	0.096

Air Sample Volume(L): 17.0
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	106	50-150

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Client Sample ID: B18IA-4-012117
Lab ID#: 1701420R1-05A
EPA METHOD TO-17

File Name:	**18013116R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:29:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 06:41 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.066	2.5	0.17

Air Sample Volume(L): 15.2
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	123	50-150

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Client Sample ID: B18IA-5-012117

Lab ID#: 1701420R1-06A

EPA METHOD TO-17

File Name:	**18013117R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:14:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 07:21 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.058	3.0	0.17

Air Sample Volume(L): 17.3
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	95	50-150

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Client Sample ID: B30IA-1-012117
Lab ID#: 1701420R1-07A
EPA METHOD TO-17

File Name:	**18013118R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:17:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 08:02 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.059	2.0	0.12

Air Sample Volume(L): 17.0
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	128	50-150

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Client Sample ID: B30IA-2-012117

Lab ID#: 1701420R1-08A

EPA METHOD TO-17

File Name:	**18013119R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 11:15:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 09:46 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.028	0.94 JQ	0.026 JQ

Air Sample Volume(L): 36.0

J = Estimated value.

Q = The internal standard associated with the analyte exceeded acceptance limits.

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	57	50-150

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Client Sample ID: B30IA-3-012117

Lab ID#: 1701420R1-09A

EPA METHOD TO-17

File Name:	**18013120R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 11:18:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 10:26 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.026	3.1	0.084

Air Sample Volume(L): 37.6
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	113	50-150

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Client Sample ID: B30IA-4-012117

Lab ID#: 1701420R1-10A

EPA METHOD TO-17

File Name:	**18013121R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:22:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 11:07 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.058	2.1	0.12

Air Sample Volume(L): 17.3
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	125	50-150

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Client Sample ID: B301A-4D-012117

Lab ID#: 1701420R1-11A

EPA METHOD TO-17

File Name:	**18013122R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 7:00:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 11:47 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.064	2.1	0.13

Air Sample Volume(L): 15.7
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	116	50-150

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Client Sample ID: B30IA-5-012117

Lab ID#: 1701420R1-12A

EPA METHOD TO-17

File Name:	**18013123R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:25:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/1/17 12:28 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.057	2.6	0.15

Air Sample Volume(L): 17.5
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	50	50-150

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Client Sample ID: B1830AA-012117
Lab ID#: 1701420R1-13A
EPA METHOD TO-17

File Name:	**18013124R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 6:42:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/1/17 01:08 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.055	1.4	0.080

Air Sample Volume(L): 18.2
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	116	50-150

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Client Sample ID: B1830FB-012217

Lab ID#: 1701420R1-14A

EPA METHOD TO-17

File Name:	**18013111R1**	**Date of Extraction: NA**	**Date of Collection: 1/22/17 11:35:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 1/31/17 03:17 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.026	0.72 J	0.019 J

Air Sample Volume(L): 37.6

J = Estimated value.

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	124	50-150

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Client Sample ID: B8IA-2-012317

Lab ID#: 1701420R1-15A

EPA METHOD TO-17

File Name:	**18013125R1**	**Date of Extraction: NA**	**Date of Collection: 1/24/17 12:23:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/1/17 01:49 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.058	1.7	0.097

Air Sample Volume(L): 17.3
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	125	50-150

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Client Sample ID: B8IA-2D-012317
Lab ID#: 1701420R1-16A
EPA METHOD TO-17

File Name:	**18013126R1**	**Date of Extraction: NA**	**Date of Collection: 1/24/17 12:23:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/1/17 02:29 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.059	1.8	0.10

Air Sample Volume(L): 17.0
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	126	50-150

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Client Sample ID: B8AA-012317

Lab ID#: 1701420R1-17A

EPA METHOD TO-17

File Name:	**18013127R1**	**Date of Extraction: NA**	**Date of Collection: 1/24/17 12:43:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/1/17 03:10 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	0.054	1.9	0.10

Air Sample Volume(L): 18.5
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	82	50-150

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Client Sample ID: B8SS-2D-012417

Lab ID#: 1701420R1-19A

EPA METHOD TO-17

File Name:	**18013129R1**	**Date of Extraction: NA**	**Date of Collection: 1/24/17 3:29:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 2/1/17 04:31 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	2.5	Not Detected	Not Detected

Air Sample Volume(L): 0.400
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	109	50-150

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Project Manager Terry Taylor
Collected by: (Print and Sign) Terry Taylor
Company AMAI Email ttaylor@amainc.com
Address 2700 Westchester City Purchase State NY Zip 10577
Phone 914-251-0400 Fax

Project Info:
P.O. #
Project #
Project Name

Turn Around Time: ☒ Normal ☐ Rush _____ specify

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate in	Post-Test Flow Rate in	Volume 2	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
02A	B18-1IA-012117	149635 ~~153625~~	1/21/17	1807	1/23/17	1807	36	34	16.8	☒	☐	☐	☐
02A	B18-1IAD-012117	147087 ~~153625~~	1/21/17	1809	1/22/17	1809	36	36	17.3	☒	☐	☐	☐
03A	B18IA-2-012117	154190	1/22/17	1040	1/22/17	1800	35	35	17.9	☒	☐	☐	☐
04A	B18IA-3-012117	130921	1/21/17	1810	1/22/17	1810	36	35	17.0	☒	☐	☐	☐
05A	B18IA-4-012117	132020	1/22/17	1106	1/22/17	1829	34	34	15.2	☒	☐	☐	☐
06A	B18IA-5-012117	152285	1/21/17	1814	1/22/17	1814	36	36	17.3	☒	☐	☐	☐
07A	B30IA-1-012117	155296	1/21/17	1817	1/22/17	1817	36	35	17	☒	☐	☐	☐
08A	B30IA-2-012117	149846	1/21/17	1820	1/22/17	1115	35	36	36	☐	☐	☐	☐
09A	B30IA-3-012117	130998	1/21/17	1821	1/22/17	1118	35	39	37.6	☐	☐	☐	☐
10A	B30IA-4-012117	153653	1/21/17	1822	1/22/17	1822	36	36	17.3	☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
	1/27/17: 1140	Alex Beer EAL	1/30/17 0920
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex	[redacted]	~~14~~ 14.0	SDR	Yes No (None)	1701420

CAR 1/31/17

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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(916) 985-1000 FAX (916) 985-1020

Project Manager Terry Taylor
Collected by: (Print and Sign) Terry Taylor
Company AMAI Email
Address 2700 Westchester City Purchase State NY Zip 10577
Phone 914-251-0700 Fax

Project Info:
P.O. #
Project #
Project Name

Turn Around Time: ☐ Normal ☐ Rush _____ specify

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume l	Indoor Air	Outdoor Air	Soil Vapor	Other (Field Blank)
11A	B30IA-4D-012117	146100	1/22/17	1130	1/22/17	1900	35	34	15.7	☒	☐	☐	☐
12A	B30IA-5-012117	152286	1/21/17	1825	1/22/17	1825	36	37	17.5	☒	☐	☐	☐
13A	B1830AA-012117	149646	1/21/17	1842	1/22/17	1842	35	42	18.2	☐	☒	☐	☐
14A	B1830FB-012217	153686	1/22/17	1135	1/22/17	1135	—	—	—	☐	☐	☐	☒
15A	B8IA-2-012317	149175	1/23/17	1223	1/23/17	1223	35	37	17.3	☒	☐	☐	☐
16A	B8IA-2D-012317	132018	1/23/17	1223	1/24/17	1223	35	36	19.0	☒	☐	☐	☐
17A	B8AA-012317	132016	1/23/17	1243	1/24/17	1243	35	42	18.5	☐	☒	☐	☐
18A	B8SS-2-012417	151834	1/24/17	1520	1/24/17	1523	133	133	0.40	☐	☐	☒	☐
19A	B8SS-2D-012417	151833	1/24/17	1526	1/24/17	1529	133	133	0.40	☐	☐	☒	☐
										☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	1/27/17: 1140	[signature] EATL	1/30/17 0920
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		14.0	SDR	Yes No (None)	1701420

EXECUTIVE NARRATIVE

SDG No:	**1701420R1-1**	Laboratory:	**Eurofins, Folson, CA**
Analysis:	**TO-17**	Number of Samples:	**18**
Location:			

SUMMARY: Eighteen (18) samples were analyzed for naphthalene in ambient air following Compendium Method TO-17. The sample results were assessed according to USEPA data validation documents in the following order of precedence: QC criteria from "Compendium Method TO-17. Determination of Volatile Organic Compounds (VOCs) In Ambient Air Using Active Sampling Onto Sorbent Tubes (modified), January, 1999"; In addition the following guideline is employed for the evaluation of the set-up of the GC/MS analytical system including column selection, MS tune requirements, calibration protocols, etc., as per TO-17 method requirements: USEPA Hazardous Waste Support Branch. Validating Air Samples. Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, (SOP # HW-31. Revision #6. June, 2014). The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

Results are valid and can be used for decision making purposes.

Critical issues: **None**
Major: **None**
Minor: **None**

Critical findings: **None**

Major findings: **1.** Results for sample B8SS-2-012417 were not reported due to significant matrix interference which resulted in extremely poor recovery of the internal standard Bromofluorobenzene. As a result, compounds quantified using Bromofluorobenzene could not be evaluated and were therefore not reported.

Minor findings: **1.** All samples analyzed within the recommended method holding time. Samples received in good conditions and no receiving discrepancies were observed except the cases described in this document. A Temperature Blank was not included with the shipment. Temperature was measured on a representative sample and was not within 4±2 °C. Coolant in the form of blue ice was present. Analysis proceeded; no action taken professional judgment. The % difference in sample flow rate (beginning/end) was within method performance criteria.

2. Naphthalene detected in the laboratory blank at a concentration below the reporting limits. No action taken, professional judgment.

Naphthalene was detected in sample 1701420-14A (Blank tube) analyzed with this data package. No action taken, analyte concentration below the reporting limit.

3. The recovery of internal standard Bromofluorobenzene in sample B30IA-2-012117 was outside control limits. Reanalysis of a back-up tube sample confirmed results. Compounds quantified using the affected internal standard are qualified as estimated (J-) values and are flagged with a 'Q' by the laboratory.

COMMENTS: Results are valid and can be used for decision making purposes.

Reviewers Name: Rafael Infante
Chemist License 1888

Signature:

Date: March 27, 2017

NAPHTHALENE DATA SAMPLE SUMMARY

METHOD: TO-17

		NAPHTHALENE - TO 17					
Sample ID	Date	Results	Units	Dilution Factor	Lab Flag	Validation	Reportable
1701420R1-01A	1/22/2017	3.4	ng	1.0	-	-	Yes
1701420R1-02A	1/22/2017	3.1	ng	1.0	-	-	Yes
1701420R1-03A	1/22/2017	5.0	ng	1.0	-	-	Yes
1701420R1-04A	1/22/2017	1.6	ng	1.0	-	-	Yes
1701420R1-05A	1/22/2017	2.5	ng	1.0	-	-	Yes
1701420R1-06A	1/22/2017	3.0	ng	1.0	-	-	Yes
1701420R1-07A	1/22/2017	2.0	ng	1.0	-	-	Yes
1701420R1-08A	1/22/2017	0.94	ng	1.0	JQ	J-	Yes
1701420R1-09A	1/22/2017	3.1	ng	1.0	-	-	Yes
1701420R1-10A	1/22/2017	2.1	ng	1.0	-	-	Yes
1701420R1-11A	1/22/2017	2.1	ng	1.0	-	-	Yes
1701420R1-12A	1/22/2017	2.6	ng	1.0	-	-	Yes
1701420R1-13A	1/22/2017	1.4	ng	1.0	-	-	Yes
1701420R1-14A	1/22/2017	0.72	ng	1.0	J	J	Yes
1701420R1-15A	1/24/2017	1.7	ng	1.0	-	-	Yes
1701420R1-16A	1/24/2017	1.8	ng	1.0	-	-	Yes
1701420R1-17A	1/24/2017	1.9	ng	1.0	-	-	Yes
1701420R1-19A	1/24/2017	1.0	ng	1.0	-	U	Yes

DATA REVIEW WORKSHEETS

Project Number:_1701420R1__
Date:____01/22_&_24/2017___

REVIEW OF VOLATILE ORGANIC PACKAGE

The following guidelines for evaluating volatile organics were created to delineate required validation actions. This document will assist the reviewer in using professional judgment to make more informed decision and in better serving the needs of the data users. The sample results were assessed according to USEPA the documents described in the following order of precedence: QC criteria from "Compendium Method TO-17. Determination of Volatile Organic Compounds (VOCs) In Ambient Air Using Active Sampling Onto Sorbent Tubes (modified), January, 1999"; In addition the following guideline is employed for the evaluation of the set-up of the GC/MS analytical system including column selection, MS tune requirements, calibration protocols, etc., as per TO-17 method requirements: USEPA Hazardous Waste Support Branch. Validating Air Samples. Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, (SOP # HW-31. Revision #6. June, 2014). The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.
The hardcopied (laboratory name) _Eurofins_-_Air_Toxics_____ data package received has been reviewed and the quality control and performance data summarized. The data review for VOCs included:

Lab. Project/SDG No.: __1701420R1_____ Sample matrix: ___Air_____
No. of Samples: _____18_____

Trip blank No.: _____B1830FB-012217_____
Field blank No.: _____-_____
Equipment blank No.:___-_____
Field duplicate No.:___B18-1IA-012117/B18-1IAD-012117;_B30IA-4-012117/B30IA-4D-012117;__
_____B8IA-2-012317/B8IA-2D-012317_____

___X___ Data Completeness	___X___ Laboratory Control Spikes
___X___ Holding Times	___X___ Field Duplicates
___X___ GC/MS Tuning	___X___ Calibrations
___X___ Internal Standard Performance	___X___ Compound Identifications
___X___ Blanks	___X___ Compound Quantitation
___X___ Surrogate Recoveries	___X___ Quantitation Limits

Overall Comments:_____Naphthalene_by_method_TO-17_(modified)_detection_by_full_scan__
_GC/MS_____

Definition of Qualifiers:

J-	Estimated results
U-	Compound not detected
R-	Rejected data
UJ-	Estimated nondetect

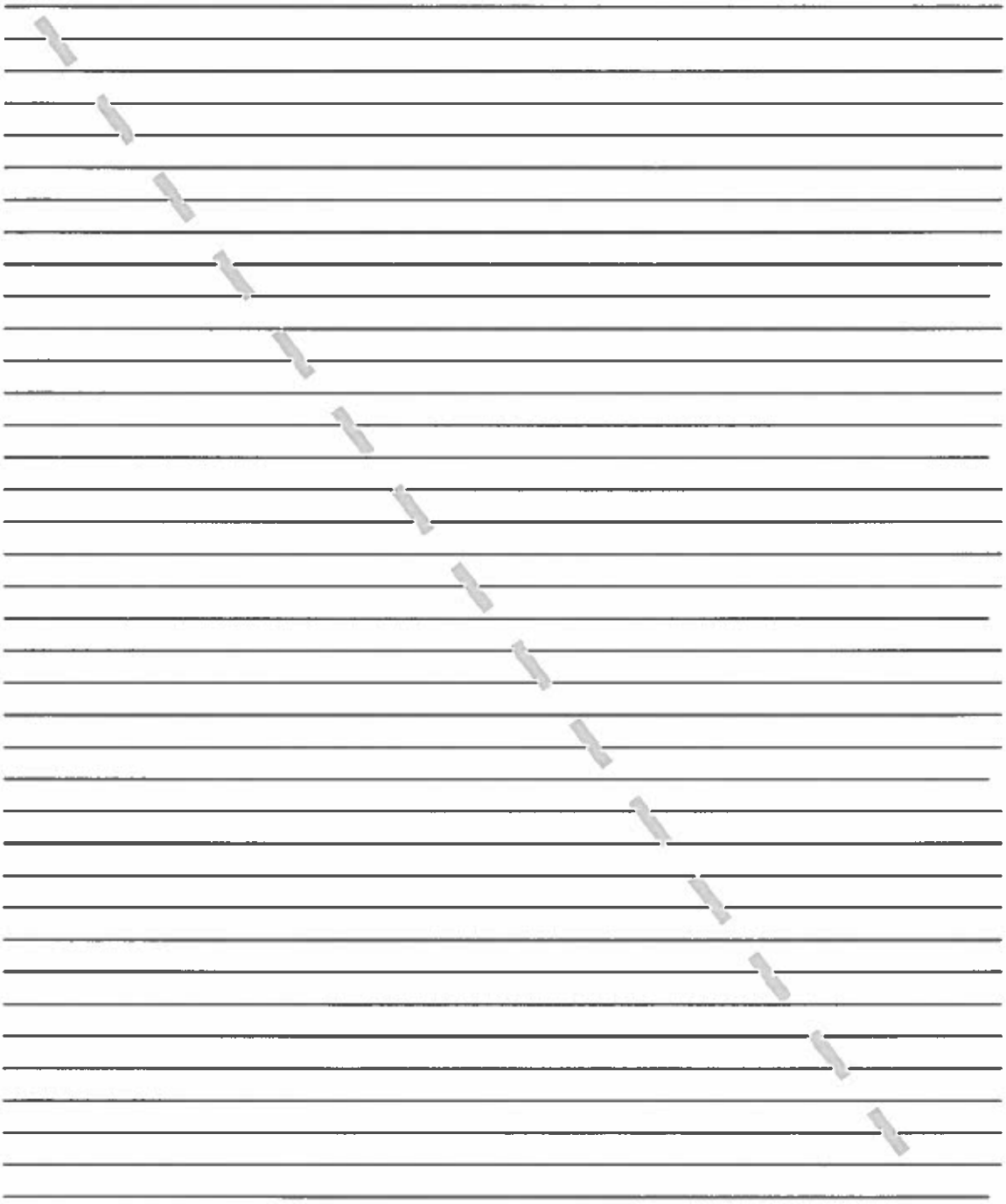
Reviewer:_____ Rafael Dafaut _____

Date:_____03/27/2017_____

DATA REVIEW WORKSHEETS

DATA COMPLETENESS

MISSING INFORMATION	DATE LAB. CONTACTED	DATE RECEIVED



DATA REVIEW WORKSHEETS

All criteria were met __X__
Criteria were not met
and/or see below _____

HOLDING TIMES

The objective of this parameter is to ascertain the validity of the results based on the holding time of the sample from time of collection to the time of analysis.

Complete table for all samples and note the analysis and/or preservation not within criteria

SAMPLE ID	DATE SAMPLED	DATE ANALYZED	> 10% difference in sample flow rate (beginning/end)	ACTION
All samples analyzed within the recommended method holding time. Samples received in good conditions and no receiving discrepancies were observed except the cases described in this document. A Temperature Blank was not included with the shipment. Temperature was measured on a representative sample and was not within 4±2 °C. Coolant in the form of blue ice was present. Analysis proceeded; no action taken professional judgment. % difference in sample flow rate (beginning/end) within method performance criteria.				

Criteria

Samples should be refrigerated at <4°C in a clean environment during storage and analyzed within 30 days of sample collection (within one week for limonene, carene, *bis*-chloromethyl ether and labile sulfur or nitrogen containing volatiles). Samples taken on tubes containing multiple sorbent beds should be analyzed as soon as possible after sampling unless it is know in advance that storage will not cause significant sample recovery errors.

Receiving temperature: 14°C

Actions

If holding times are exceeded use professional judgment to qualify positive results and non-detects.

Performance Criteria for the Monitoring Pump

Sampling pump errors can normally be presumed to be in the order of 5% (8). If the pump sampling flow rate measured at the end of sample collection varies more than 10% from that measured at the beginning of sample collection, then that sample is invalidated.

All criteria were met _X_
Criteria were not met see below ____

GC/MS TUNING

The assessment of the tuning results is to determine if the sample instrumentation is within the standard tuning QC limits. The following actions from the TO-15 compendium method are employed.

Gas Chromatograph/Mass Spectrometer (GC/MS) Instrument Performance Check

Action:

NOTES: This requirement does not apply when samples are analyzed by the Selected Ion Monitoring (SIM) technique.
All mass spectrometer instrument conditions must be identical to those used during the sample analysis. Background subtraction actions resulting in spectral distortions for the sole purpose of meeting the method specifications are contrary to the Quality Assurance (QA) objectives, and are therefore unacceptable.

NOTES: No data should be qualified based on BFB or DFTTP failure. Instances of this should be noted in the narrative.
All ion abundance ratios must be normalized to m/z 95, the nominal base peak, even though the ion abundance of m/z 174 may be up to 120% that of m/z 95.

1. If samples are analyzed without a preceding valid instrument performance check, qualify all data in those samples as unusable (R).
2. If the laboratory has made minor transcription errors which do not significantly affect the data, the data reviewer should make the necessary corrections on a copy of the form.
3. If the laboratory has failed to provide the correct forms or has made significant transcription or calculation errors, the Region's designated representative should contact the laboratory and request corrected data. If the information is not available, the reviewer must use professional judgment to assess the data and notify the Project Officer (PO).
4. If ion abundance criteria are not met, professional judgment may be applied to determine to what extent the data may be utilized. When applying professional judgment to this topic, the most important factors to consider are the empirical results that are relatively insensitive to location on the chromatographic profile and the type of instrumentation. Therefore, the critical ion abundance criteria for BFB are the m/z 95/96, 174/175, 174/176, and 176/177 ratios. The relative abundances of m/z 50 and 75 are of lower importance. This issue is more critical for Tentatively Identified Compounds (TICs) than for target analytes.
5. Note, in the Data Review Narrative, decisions to use analytical data associated with BFB instrument performance check failures (not meeting contract requirements).
6. If the reviewer has reason to believe that instrument performance check criteria were achieved using techniques other than those described in the Compendium method TO-15 entitled "Determination Of Volatile Organic Compounds(VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry(GC/MS)", section 10.4, obtain additional information on the instrument performance checks. If the techniques employed are found to be at variance with the contract requirements, the performance and procedures of the laboratory may merit evaluation.
7. Use professional judgment to determine whether associated data should be qualified based on the spectrum of the mass calibration compound.

__X___ The BFB performance results were reviewed and found to be within the specified criteria.

__X___ BFB tuning was performed for every 24 hours of sample analysis.

If no, use professional judgment to determine whether the associated data should be accepted, qualified or rejected.

List the samples affected:

_____

_____

_____

If mass calibration is in error, all associated data are rejected.

DATA REVIEW WORKSHEETS

All criteria were met _X_
Criteria were not met
and/or see below ____

CALIBRATION VERIFICATION

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing and maintaining acceptable quantitative data. The calibration criteria and appropriate actions from the compendium method TO-15 are employed.

Date of initial calibration:_____01/09-10/17____
Dates of continuing calibration:___01/31/17____
Instrument ID numbers:____MSD-18_____
Matrix/Level:_____Air/low_____

DATE	LAB FILE ID#	CRITERIA OUT RFs, %RSD, %D, r	COMPOUND	SAMPLES AFFECTED
Initial and continuing calibrations meet method specific requirements. Initial calibration retention times meet method specific requirements.				

The following criteria apply:

Table 5. Initial Calibration Actions for TO-15 Analyses

Criteria for TO-15 Analysis	Action	
	Detected Associated Compounds	Non-Detected Associated Compounds
RRF < 0.010 (poor response volatile target compounds, Table 4) RRF < 0.050 (all other volatile target compounds)	J (based on mass spectral identification)	R
RRF > 0.010 (poor response volatile target compounds, Table 4) RRF > 0.050 (all other volatile target compounds)	No qualification	
% RSD > 40.0 or < -40.0 (poor response volatile target compounds, Table 4) % RSD > 30.0 or < -30.0 (all other Volatile target compounds)	No qualification	
% RSD < 40.0 and > -40.0 (poor response volatile target compounds, Table 4) % RSD < 30.0 and > -30.0 (all other volatile target compounds)	J	Use professional judgment

Table 6. Continuing Calibration Verification (CCV) Actions for TO-15 Analyses

Criteria for CCV	Action	
	Detected Associated Compounds	**Non-Detected Associated Compounds**
RRF < 0.010 (poor response volatile target compounds, Table 4) RRF < 0.050 (all other volatile target compounds)	J (based on mass spectral identification)	R
RRF > 0.010 (poor response volatile target compounds, Table 4) RRF > 0.050 (all other volatile target compounds)	No qualification	
%D > 40.0 or < -40.0 (poor response volatile target compounds, Table 4) %D > 30.0 or < -30.0 (all other Volatile target compounds)	J	UJ
%D < 40.0 and > -40.0 (poor response volatile target compounds, Table 4) %D < 30.0 and > -30.0 (all other volatile target compounds)	No qualification	

If the % D for daily calibration exceeds -90, use professional judgment to see if non-detects nee to be qualified as unusable "R"

A separate worksheet should be filled for each initial curve

Table 4. TO 15 Volatile Compounds List*

Compound	CAS Number	Synonyms
Acetone	67-64-1	Dimethyl ketone; Dimethylformaldehyde; 2-Propanone
Allyl chloride	107-05-1	3-Chloropropene; 3-Chloroprene
Benzene	71-43-2	Benzol; Benzine
Benzyl chloride	100-44-7	Chloromethylbenzene; alpha-Chlorotoluene
Bromodichloromethane	75-27-4	Monobromodichloromethane; Methane-bromodichloro
Bromoethene	593-60-2	Vinyl bromide; Monobromoethene
Bromoform	75-25-2	Tribromoethane
Bromomethane	74-83-9	Methyl bromide; Monobromomethane
1,3-Butadiene	106-99-0	Biethylene; Erythrene; Pyrrolyene
Carbon disulfide	***75-15-0***	***Carbon bisulfide; Carbon sulfide***
Carbon tetrachloride	56-23-5	Carbon tet; Tetrachloromethane
Chlorobenzene	108-90-7	Monochlorobenzene; Chlorobenzol; Benzene chloride
Chloroethane	***75-00-3***	***Ethyl chloride; Chlorene; Chloryl***
Chloroethene	75-01-4	Vinyl chloride; Ethylene monochloride
Chloroform	67-66-3	Trichloromethane; Methyltrichloride; Methane trichloride
Chloromethane	***74-87-3***	***R40; Methyl chloride; Monochloromethane***
Cyclohexane	110-82-7	Hexamethylene; Hexahydrobenzene; Hexanaphthene
Dibromochloromethane	124-48-1	Chlorodibromomethane
1,2-Dibromoethane	***106-93-4***	***EDB; Ethylene dibromide***
1,2-Dichlorobenzene	95-50-1	ODB; Chloroben
1,3-Dichlorobenzene	541-73-1	meta-Dichlorobenzene; m-Phenylenedichloride
1,4-Dichlorobenzene	106-46-7	para-Dichlorobenzene; Parazene; Santochlor
1,1-Dichloroethane	75-34-3	Ethylidene chloride; Ethylidene dichloride
1,2-Dichloroethane	107-06-2	Ethylene dichloride; Glycol dichloride; 1,2-DCA
1,1-Dichloroethene	75-35-4	1,1-DCE; Vinylidene chloride
cis-1,2-Dichloroethylene	156-59-2	cis-1,2-DCE; cis-Acetylene dichloride
trans-1,2-Dichloroethylene	156-60-5	trans-1,2-DCE; trans-Acetylene dichloride
1,2-Dichloropropane	***78-87-5***	***Propylene dichloride; Propylene chloride***
cis-1,3-Dichloropropene	10061-01-5	1-Propene,1,3-dichloro-,(z)-; cis-1,3-Dichloro-1-Propene
trans-1,3-Dichloropropene	10061-02-6	trans-1,3-Dichloro-1-Propene; trans-1,3-Dichloropropylene
1,4-Dioxane	***123-91-1***	***Diethylene dioxide; Diethylene ether***
Ethyl acetate	141-78-6	Acetic acid ethyl ester; Acetic ether
Ethylbenzene	100-41-4	Ethylbenzol; Phenylethane
4-Ethyltoluene	622-96-8	1-Ethyl-4-methyl benzene; p-Methylethylbenzene
Freon 11 (CCl_3F)	75-69-4	Trichlorofluoromethane; Fluorotrichloromethane; Fluorocarbon 11

Freon 12 (CCl2F2)	75-71-8	Dichlorodifluoromethane; Fluorocarbon 12
Freon 113 (C2Cl3F3)	76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane; Fluorocarbon 113; 1,1,2-Trichlorotrifluoroethane
Freon 114 (C2Cl2F4)	76-14-2	1,2-Dichlorotetrafluoroethane; Halocarbon 114; 1,2-Dichloro-1,1,2,2-tetrafluoroethane
Heptane	142-82-5	Dipropylmethane; Heptyl hydride
Hexachlorobutadiene	87-68-3	1,3-Hexachlorobutadiene; Perchlorobutadiene
Hexane	110-54-3	n-Hexane; Hexyl hydride
2-Hexanone	591-78-6	Methyl butyl ketone; Butyl methyl ketone; Hexan-2-one
Isopropyl alcohol	67-63-0	2-Propanol; Isopropanol
Methylene chloride	***75-09-2***	***Dichloromethane; Methylene dichloride***
Methyl ethyl ketone	***78-93-3***	***MEK; 2-Butanone; Ethyl methyl ketone***
Methyl isobutyl ketone	108-10-1	MIBK; 2-Pentanone; Hexone; Isopropylacetone
Methyl tert-butyl ether	1634-04-4	MTBE; 2-Methoxy-2-methylpropane; tert-Butyl methyl ether
Propylene	115-07-1	Propene; Methylethylene
Styrene	100-42-5	Vinylbenzene; Phenylethylene
1,1,2,2-Tetrachloroethane	79-34-5	Tetrachloroethane; Acetylene tetrachloride; Bonoform
Tetrachloroethene	127-18-4	PCE; PERC; Perchloroethylene; Ethylene tetrachloride; Carbon bichloride; Carbon dichloride
Tetrahydrofuran	109-99-9	Diethylene oxide; Butylene oxide
Toluene	108-88-3	Toluol; Methylbenzene
1,2,4-Trichlorobenzene	120-82-1	1,2,4-Trichlorobenzol
1,1,1-Trichloroethane	71-55-6	Methyl chloroform; Trichloroethane
1,1,2-Trichloroethane	79-00-5	beta-Trichloroethane; Ethane trichloride; Vinyl trichloride
Trichloroethene	79-01-6	TCE; Acetylene trichloride; Ethinyl trichloride
1,2,4-Trimethylbenzene	95-63-6	Pseudocumene; Pseudocumol
1,3,5-Trimethylbenzene	108-67-8	Mesitylene; Trimethylbenzol
2,2,4-Trimethylpentane	540-84-1	Iso-octane; Isobutyltrimethylmethane
Vinyl acetate	108-05-4	Acetic acid ethenyl ether; Ethenyl acetate
p-Xylene	106-42-3	p-Methyltoluene; 1,4-dimethylbenzene
m-Xylene	108-38-3	m-Methyltoluene; 1,3-dimethylbenzene
o-Xylene	95-47-6	o-Methyltoluene; 1,2-Dimethylbenzene

*Laboratories use different sets and subsets of analytes on as needed basis.

NOTES:

Compounds in bold italicized letters may have poor GCMS response. These poor response compounds are evaluated using more relaxed relative response factor criteria as stated below.

Note: Naphthalene does not have poor GCMS response. Calibration criteria: RRF > 0.05 and % difference in the continuing calibration verification < 30 %.

All criteria were met _X__
Criteria were not met
and/or see below _____

V A. BLANK ANALYSIS RESULTS (Sections 1 & 2)

The assessment of the blank analysis results is to determine the existence and magnitude of contamination problems. The criteria for evaluation of blanks apply only to blanks associated with the samples, including trip, equipment, and laboratory blanks. If problems with any blanks exist, all data associated with the case must be carefully evaluated to determine whether or not there is an inherent variability in the data for the case, or if the problem is an isolated occurrence not affecting other data.

List the contamination in the blanks below. High and low levels blanks must be treated separately.

Laboratory blanks

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
All method blank meet method specific criteria except for the followings:				
01/31/17	1701420R1-20A	Air/low	Naphthalene	0.014 ng/m^3

Note: Naphthalene detected in the laboratory blank at a concentration below the reporting limits. No action taken, professional judgment.

Field blanks

Field blanks are the same as laboratory blanks except that they are transported to and from the monitoring site, are uncapped and immediately resealed at the monitoring site, but do not actually have air pumped through them. One field blank tube is taken for every ten sampled tubes on a monitoring exercise.

Criteria:
If the same profile/pattern of VOCs is observed on the field blanks as on the sampled tubes and if the level of these components is 5% or more of the sampled volatiles, careful attention must be paid to the method of sealing the tubes and other storage procedures in future studies. If the profile of volatiles on the field blanks matches that of the sampled tubes and if the areas of the peaks on the field blank are 10% or more of sampled tube levels, the sampled tube data are invalidated.

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
Naphthalene was detected in sample 1701420R1-14A (Blank tube) analyzed with this data package. No action taken, analyte concentration below the reporting limit.				

Note:

All criteria were met __X__
Criteria were not met
and/or see below _____

V B. BLANK ANALYSIS RESULTS (Section 3)

Blank Actions

Action Levels (ALs) should be based upon the highest concentration of contaminant determined in any blank. Do not qualify any blank with another blank. The ALs for samples which have been diluted should be corrected for the sample dilution factor, where applicable. No positive sample results should be reported unless the concentration of the compound in the samples exceeds the ALs:

ALs = 10x the amount of common contaminants (methylene chloride, acetone, 2-butanone, and toluene)
ALs = 5x for any other compounds

Specific actions are as follows:

If the concentration is < sample quantitation limit (SQL) and ≤ AL, report the compound as not detected (U) at the SQL.
If the concentration is ≥ SQL but ≤ AL, report the compound as not detected (U) at the reported concentration.
If the concentration is ≥ SQL and > AL, report the concentration unqualified.

Notes:

High and low level blanks must be treated separately
Compounds qualified "U" for blank contamination are still considered "hits" when qualifying for calibration criteria.

CONTAMINATION SOURCE/LEVEL	COMPOUND	CONC/UNITS	AL/UNITS	SQL	AFFECTED SAMPLES

DATA REVIEW WORKSHEETS

All criteria were met __X__
Criteria were not met
and/or see below _____

SURROGATE SPIKE RECOVERIES

Laboratory performance of individual samples is established by evaluation of surrogate spike recoveries. All samples are spiked with surrogate compounds prior to sample analysis. The accuracy of the analysis is measured by the surrogate percent recovery. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the validation of data is frequently subjective and demands analytical experience and professional judgment.
List the percent recoveries (%Rs) which do not meet the criteria for surrogate recovery.
Matrix: solid/aqueous

SAMPLE ID	SURROGATE COMPOUND			ACTION
	~~1,2-DICHLOROETHANE-d4~~	Naphthalene-d8	~~4-BFB~~	

_Surrogate_recoveries_within_laboratory_control_limits_____

QC Limits* (Air)

_____LL_to_UL_____to_____ _50__to_150_ _____to_____

* QC limits are laboratory in-house performance criteria, LL = lower limit, UL = upper limit.
* If QC limits are not available, use limits of 80 – 120 % for aqueous and 70 – 130 % for solid samples.

Actions:

QUALITY	%R < 10%	%R = 10% - LL	%R > UL
Positive results	J	J	J
Nondetects results	R	UJ	Accept

Surrogate action should be applied:

If one or more surrogate in the VOC fraction is out of specification, but has a recovery of > 10%.

If any one surrogate in a fraction shows < 10 % recovery.

All criteria were met _X_
Criteria were not met
and/or see below _____

VIII. LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

This data is generated to determine accuracy of the analytical method for various matrices.

1. LCS Recoveries Criteria

Where LCS spiked with the same analyte at the same concentrations as the MS/MSD? Yes or No. If no make note in data review memo.
List the %R of compounds which do not meet the criteria

LCS ID COMPOUND % R QC LIMIT

___LCS/LCSD_(Blank_spike)_analyzed_in_this_data_package;_%_recoveries_and_RPD_____
___within_laboratory_control_limits._____

* QC limits are laboratory in-house performance criteria, LL = lower limit, UL = upper limit.
* If QC limits are not available, use limits of 70 – 130 %.

Actions:

Table 9. LCS/LCSD Actions for TO-15 Analyses

Criteria	Action	
	Detected Associated Compounds	Non-detected Associated Compounds
Percent recovery Criteria		
%R > Upper Acceptance Limit (>130%)	J	No qualification
%R in the acceptable range, 70-130%	No qualification	
%R < Lower Acceptance Limit (< 70 %)	J	UJ
%R < 50%	J	R
Lower Acceptance Limit ≤ %R ≤ Upper Acceptance Limit	No qualification	
Relative Percent Difference Criteria		
% RPD ≤ 25%	No qualification	
% RPD > 25 %	J	UJ

2. Frequency Criteria:

Where LCS analyzed at the required frequency and for each matrix? Yes or No.
If no, the data may be affected. Use professional judgment to determine the severity of the effect and qualify data accordingly. Discuss any actions below and list the samples affected.

All criteria were met __X__
Criteria were not met
and/or see below _____

IX. LABORATORY/FIELD DUPLICATE PRECISION

Sample IDs: _ B18-1IA-012117/B18-1IAD-012117_(field)___ Matrix:___Air____
Sample IDs: _ B30IA-4-012117/B30IA-4D-012117_(field)___ Matrix:___Air____
Sample IDs: _ B8IA-2-012317/B8IA-2D-012317_(field)_____ Matrix:___Air____
Sample IDs: _ LCS/LCSD_(laboratory)_____ Matrix:___Air____

Field/laboratory duplicates samples may be taken and analyzed as an indication of overall precision. These analyses measure both field and lab precision; therefore, the results may have more variability than laboratory duplicates which only laboratory performance. It is also expected that soil duplicate results will have a greater variance than water matrices due to difficulties associated with collecting identical field duplicate samples.

The project QAPP should be reviewed for project-specific information.
Suggested criteria: RPD ± 50% for air samples. If both samples and duplicate are <5 SQL, the RPD criteria is doubled.

COMPOUND	SQL	SAMPLE CONC.	DUPLICATE CONC.	RPD	ACTION

Note: Laboratory/field duplicates analyzed as part of this data set. Laboratory duplicate were within method performance criteria.

Field duplicates RPD are within method performance criteria.

Actions:

Qualify as estimated positive results (J) and nondetects (UJ) for the compound that exceeded the above criteria. For organics, only the sample and duplicate will be qualified.

If an RPD cannot be calculated because one or both of the sample results is not detected, the following actions apply:

If one sample result is not detected and the other is greater than 5x the SQL qualify (J/UJ).

If one sample value is not detected and the other is greater than 5x the SQL and the SQLs for the sample and duplicate are significantly different, use professional judgment to determine if qualification is appropriate.

If one sample value is not detected and the other is less than 5x, use professional judgment to determine if qualification is appropriate.

If both sample and duplicate results are not detected, no action is needed.

All criteria were met ____
Criteria were not met
and/or see below __X__

X. INTERNAL STANDARD PERFORMANCE

The assessment of the internal standard (IS) parameter is used to assist the data reviewer in determining the condition of the analytical instrumentation.

List the internal standard area of samples which do not meet the criteria.

* Area of +40% or -40% of the IS area in the associated calibration standard.
* Retention time (RT) within ± 20 seconds of the IS area in the associated calibration standard.

DATE	SAMPLE ID	IS OUT	IS AREA	ACCEPTABLE RANGE	ACTION
_Internal_standard_area_and_retention_times_within_laboratory_control_limits_for_both_samples_and_calibration_standards_except_for_the_cases_described_in_this_document._____					
_01/31/17	B30IA-2-012117	BFB	3971824	1114776-2601144	Qualify_result_in_sample_(J-)

Actions:

Table 10. Internal Standard Actions for TO-15 Analyses

Criteria	Action	
	Detected Associated Compounds*	Non-detected Associated Compounds*
Area counts > 140% of CCV or mid-point standard from initial calibration)	J-	No qualification
Area counts < 60% of CCV or mid-point standard from initial calibration)	J+	R
Area counts ≥ 60% but ≤ 140% of CCV or mid-point standard from initial calibration)	No qualification	
RT difference > 20.0 seconds between samples CCV or mid-point standard from initial calibration)	R*	
RT difference < 20.0 seconds between samples and CCV or mid-point standard from initial calibration)	No qualification	

* Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable (R) if the mass spectral criteria are met.

Note: The recovery of internal standard Bromofluorobenzene in sample B30IA-2-012117 was outside control limits. Reanalysis of a back-up tube sample confirmed results. Compounds quantified using the affected internal standard are qualified as estimated values (J-) and are flagged with a 'Q' by the laboratory.

Results for sample 1701420-18A (B8SS-2-012417) were not reported due to significant matrix interference which resulted in extremely poor recovery of the internal standard Bromofluorobenzene. As a result, compounds quantified using Bromofluorobenzene could not be evaluated and were therefore not reported.

All criteria were met _X_
Criteria were not met
and/or see below ____

XII. SAMPLE QUANTITATION

The sample quantitation evaluation is to verify laboratory quantitation results. In the space below, please show a minimum of one sample calculation:

1701420R1-01A

Naphthalene RF = 1.51236

[ ] = (280008)(36)/(1952676)(1.51236)

= 3.413 ng OK

All criteria were met _X_
Criteria were not met
and/or see below _____

XII. QUANTITATION LIMITS

A. Dilution performed

SAMPLE ID	DILUTION FACTOR	REASONS FOR DILUTION
No dilution performed.		

System Performance

Action:

Use professional judgment to qualify the data if it is determined that system performance has degraded during sample analyses. Note, for Laboratory Project Officer (PO) action, any degradation of system performance which significantly affected the data.

Note:

Overall Assessment of Data

Action:

1. Use professional judgment to determine if there is any need to qualify data which were not qualified based on the Quality Control (QC) criteria previously discussed.
2. Write a brief narrative to give the user an indication of the analytical limitations of the data. Note, for Laboratory Project Officer (PO) action, any inconsistency of the data with the Sample Delivery Group (SDG) Narrative. If sufficient information on the intended use and required quality of the data is available, the reviewer should include their assessment of the usability of the data within the given context. This may be used as part of a formal Data Quality Assessment (DQA).

Overall assessment of the data: Results are valid; the data can be used for decision making purposes.